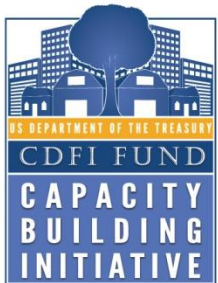




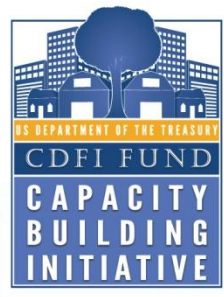
A First Look: Predicting Market Demand for Food Retail using a Huff Analysis

TRF Policy Solutions, July 2012



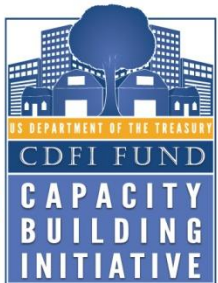
Introduction

- CDFI Fund's Capacity Building Initiative
 - Financing Healthy Food Options
 - Workshops
 - Technical Assistance – individual and group
 - Resource Bank



Today's Webinar Topic

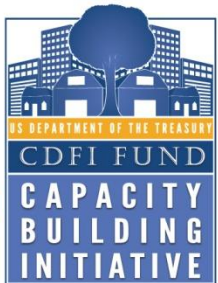
- Introduce the Huff analysis as a tool for CDFIs to evaluate potential store locations.
- Learn how the Huff analysis can interact with Limited Supermarket Access (LSA) data.
- Review how CDFIs can access TA for a Huff analysis.



Cathy Califano



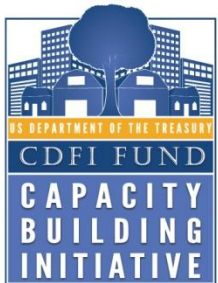
Associate Director
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Scott Haag



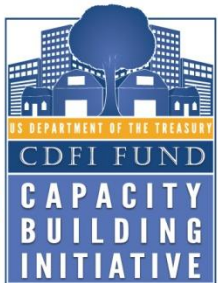
Research Associate
The Reinvestment Fund
Scott.Haag@trfund.com





A First Look: Predicting Market Demand for Food Retail using a Huff Analysis

TRF Policy Solutions, July 2012

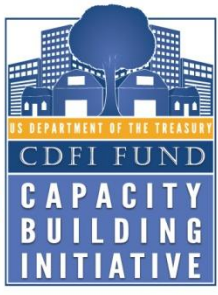


TRF and Supermarkets

We are a national leader in financing stores that provide quality fresh food at competitive prices in low income communities.

TRF is a CDFI that works to reduce inequitable access to healthy foods by:

- **Underwriting loans and providing grants** to support viable supermarket and other food access related projects.
- **Advocating** to increase awareness on food accessibility issues.
- **Conducting policy research work** related to supermarket development, food systems, free and reduced price meal programs.
- **Providing technical assistance services** to CDFIs, CDCs and foundations to design and measure intervention strategies.



Healthy Food Access Research

TRF studies a range of issues related to improving access to healthier foods in distressed communities.

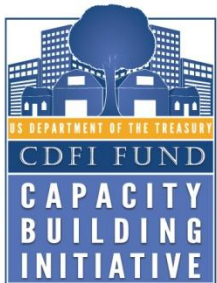
Identify areas with inadequate access to supermarkets and quantify potential market viability: LSA areas

Analyze market competition

Examine the economic barrier to opening and operating supermarkets in distressed urban areas.

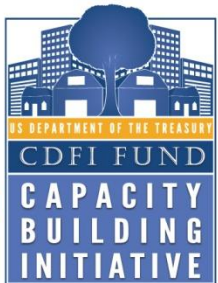
Measure economic impact of new supermarket development on surrounding communities.

Review existing programs designed to encourage people to eat and shop for healthier foods.



Overview of Webinar

- What is the Huff model?
- How can it help evaluate a potential store location?
- Why does the grocery store industry use this model?
- How is TRF using the Huff model to evaluate funding proposals?
- What is the required information for TRF to conduct a Huff Study?



The Challenge

- CDFIs have limited resources to invest in supermarket development - need to prioritize requests based upon some criteria.
- TRF estimates that 24.6 million people (or 8% of the US population) live in Limited Supermarket Access areas (LSAs).
- LSAs exist in all parts of the US with varied depth of need, as reflected in LSA access scores.
- Not all proposed locations are the same. Some sites and stores (based on size) will be more likely to serve people living in LSA areas.

How to identify, evaluate and fund applicants most likely to increase food access?

What is a Huff model?*

A way to calculate the probability that a resident of a given location (Census Block) will shop at a particular store based upon:

- 1) distance traveled to store on a road network
- 2) store square footage

Simply stated:

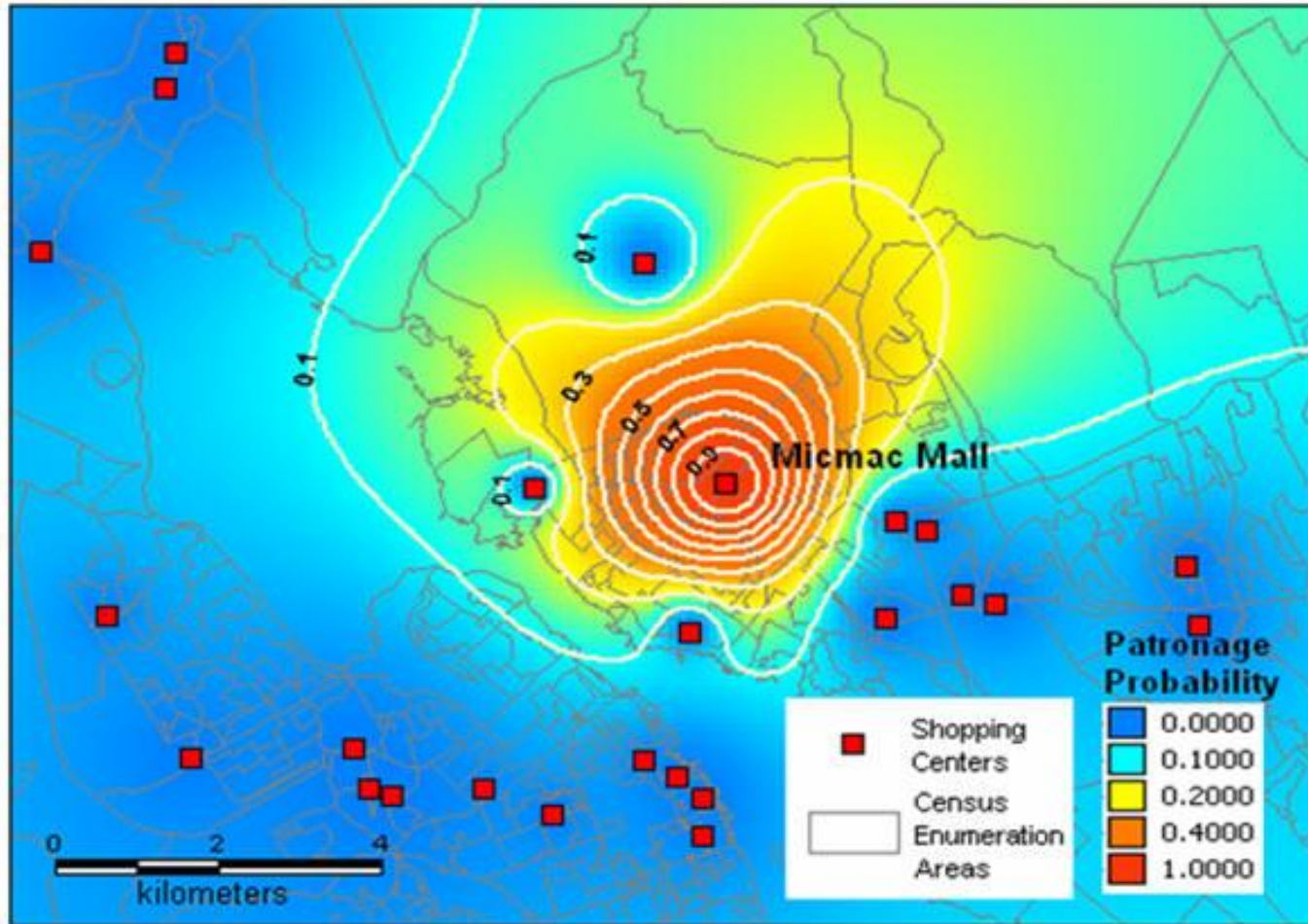
- The likelihood that a consumer will shop at a store goes **down** as the distance between residence and supermarket increases.
- The likelihood that a consumer will shop at a store goes **up** as the store's square footage increases.



** Disclaimer: Some of this work is based on the work of Dr. David L. Huff, including one of his published articles currently found at <http://www.jstor.org/stable/3144521>; Prof. Huff does not participate in this work and does not endorse it.*

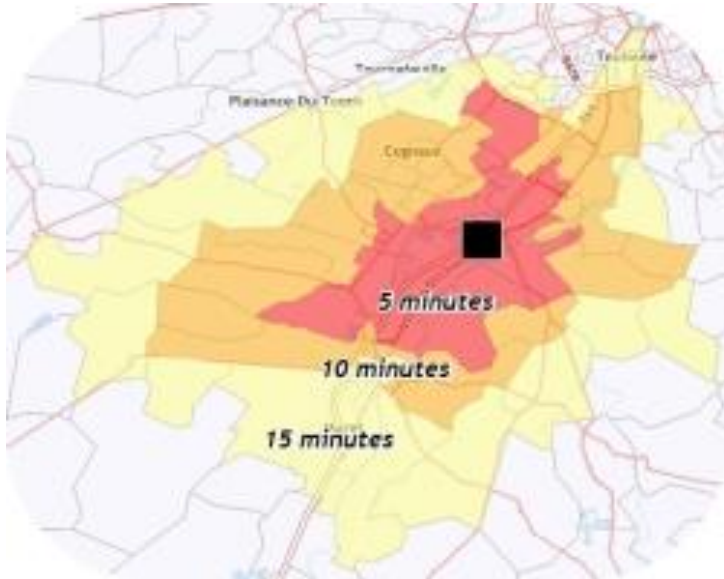
What is a Huff model?

Customer Patronage Probability Map for Micmac Mall, Dartmouth, Nova Scotia
Using Gross Leasable Area (GLA) as Attractiveness Variable



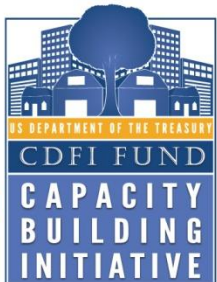
Dramowicz, E. (2005, July 2). Retail trade area analysis using the Huff model. *Directions Magazine*.

How can the Huff model assist in evaluating funding requests?



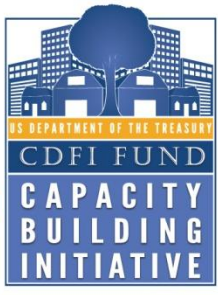
Basic Huff model displaying area of likely shoppers

- The model estimates where people will come from to shop at the store.
- TRF can then use this to figure out who benefits by:
 - Summarizing population characteristics;
 - Evaluating against LSA access scores; and
 - Identifying overlap with federal program target areas (CDBG eligible or New Market Tax Credit areas).



Why does the Grocery Store Industry use Huff modeling?

- Most US grocers use Huff models to measure potential viability of new store locations.^
- Probabilistic modeling captures the “dispersion in perceptions held by different consumers.”*
- The model is accepted industry-wide as effective for retail trade analysis.
- The Huff model has undergone 50 years of academic review, scholarly criticism, and refinement by researchers.<



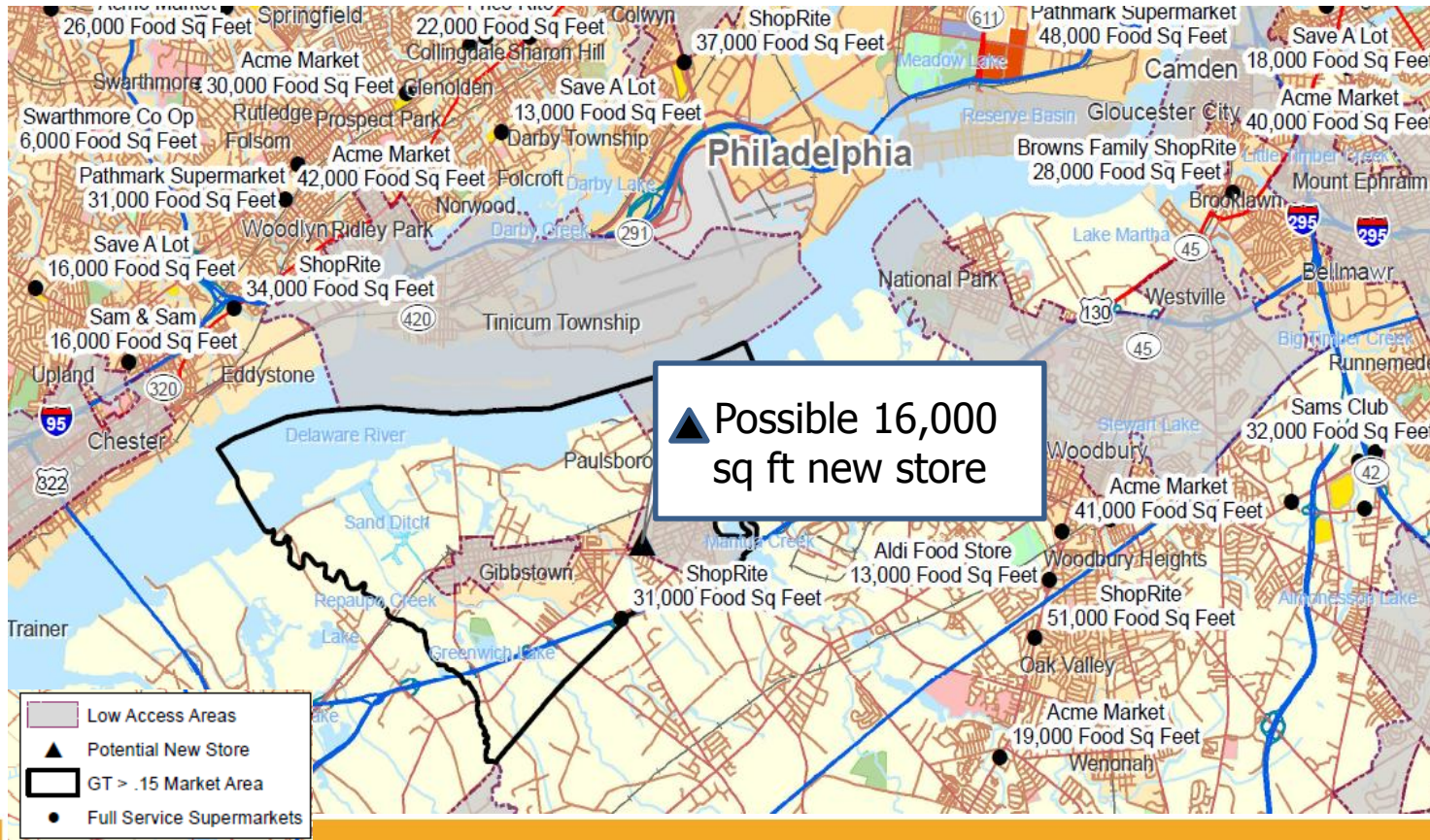
^McTaggart, J. (2007, July 1). Digging deep. *Progressive Grocer*.

* Bucklin, L. P., (1971). Retail gravity models and consumer choice: A theoretical and empirical critique. *Economic Geography*, 47(4), 489-497

< Huff, D. L., (1963). A Probabilistic Analysis of Shopping Center Trade Areas. *Land Economics*, 39(1), 81-90.

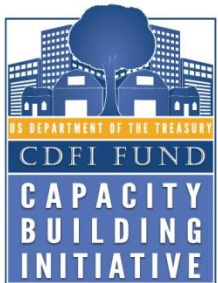
Why does the Grocery Store Industry use Huff modeling?

*Understand competition
and select placement
of new store*



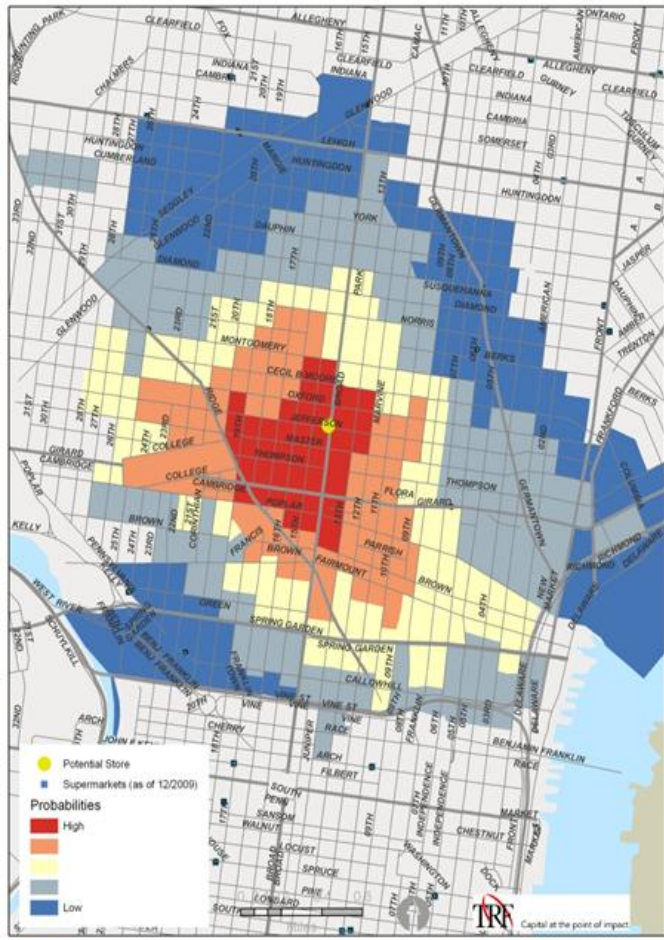
Why is TRF using Huff modeling?

- **For internal evaluation:** assess whether the loan/store is consistent with our program goals.
- **For external reporting:** demonstrate to funders that our program is serving/reaching residents in areas of inequitable access.

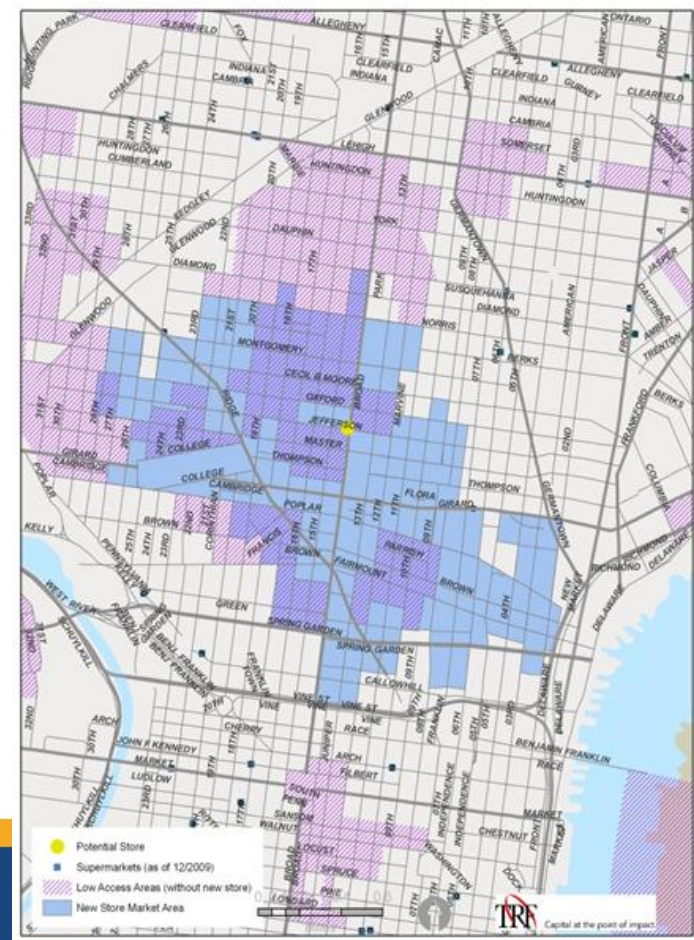


What can a Huff model reveal to me about a trade area when it is completed?

Areas of likely shoppers



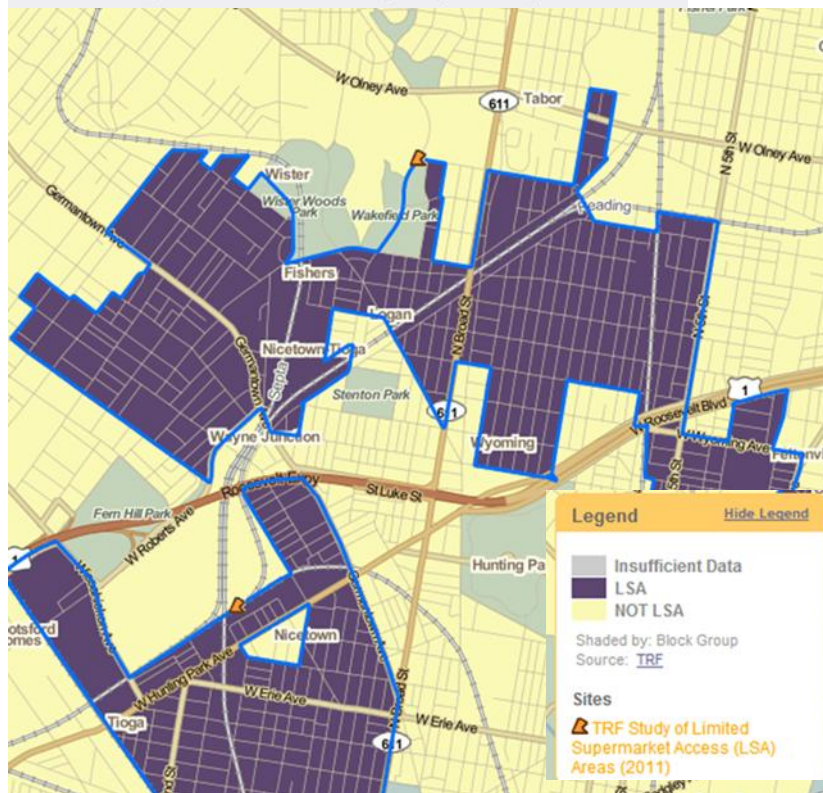
Residents with better access



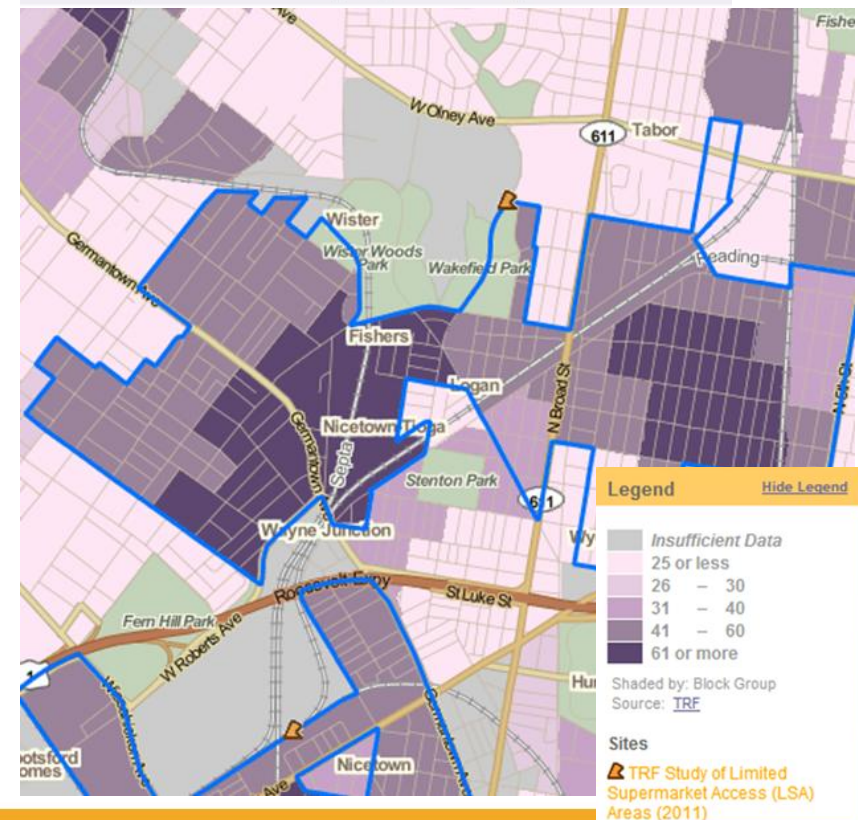
Why does TRF measure LSA Status and Access Scores with Huff?

Greater precision for lenders and operators on store's likely consumers

Limited Supermarket Access (LSA) status, as of 2011.

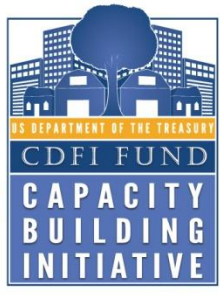


Limited Supermarket Access (LSA) Block Group Score as of 2011.



What can a Huff model reveal to me about the trade area when it is completed?

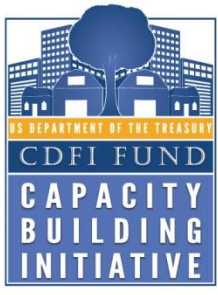
- Huff model combined with LSA analysis helps to identify **new store** locations that maximize impact in LSA area.
- “Tipping point/but for” analysis helps to identify **current store** locations already in place that are critical to fresh food access in LSA areas.



What can I learn from TRF analysis?

Characteristics of Huff model likely shoppers and data on area:

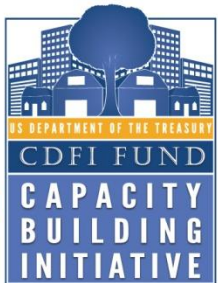
- Pop. weighted LSA score for area
- Existing markets in trade area (competition)
- Annual sales for each existing store
- Population estimates for likely shoppers
- Population estimates for likely shoppers that live in LSA area
- Percentage of population of shoppers that are LSA residents
- Projected grocery retail leakage captured
- Average population density (people/sq. mile)
- Average vehicles per household
- Location of transit access points
- Race, age and income characteristics of the area
- If the store is located in or reaches consumers who are in a CDBG, NMTC or USDA Food Desert



Huff Required Data: Supplied by CDFI

- Supermarket Project Address (include city, state, zip).
- Type: Existing store, renovation, expansion or new construction.
- Square Footage: Current and post-investment
- Description of the Project:

EXAMPLE: Operator plans to close existing store at 2700 Girard Ave. (21,000 sq. ft. with 10,000 sq. ft. for food) and open a new store, at 2701 Girard Ave. (with 32,000 sq. ft. and 15,000 sq. ft. for food)



Huff Required Data: Supplied by the CDFI

- A definition of the CDFI's eligibility criteria
- Parameters to evaluate the project against

TRF ACCESS ELIGIBILITY SECTION

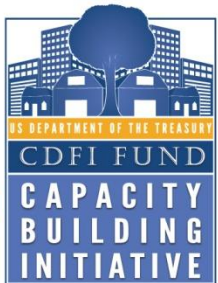
To be eligible for funding, the applicant's project must meet one of the criteria below:

Example Criteria

_____ Is an existing store (replacement/expansion store) OR

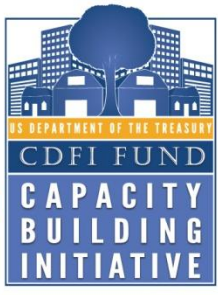
_____ At least **one-third (33.33%)** of the population projected to be served by a store lives within a LSA area OR

_____ The population estimated LSA score for all block groups to be served by the store is **greater than 30**.



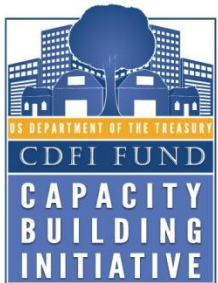
Other evaluation questions to consider (beyond the Huff Model):

- Does the store expand or preserve the availability of healthy, fresh, high-quality unprepared and unprocessed foods, particularly fruits and vegetables?
- Does the project require funding to create an impact or to be competitive with similar projects in the region?
- Does the project promote neighborhood revitalization and community development?
- Will the project adopt or expand healthy food marketing activities?





Additional Resources



How to Apply for TA Related to the Huff Model

Eligibility for TA related to the Huff Model

- Certified CDFI
- Attended either a two-day training OR a TA webinar

Step 1:

- Email Christy Bare – cbare@opportunityfinance.net – with 2-3 sentences outlining the objectives of using the Huff analysis and identifying store location(s).

Step 2:

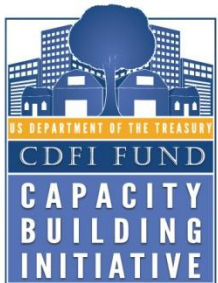
- OFN will obtain CDFI Fund approval for the request.

Step 3:

- TRF will contact the CDFI to complete an intake process.

Step 4:

- Upon completion of intake, Huff analysis will be completed within 2 weeks.



Financing Healthy Food Options Resource Bank

http://www.cdfifund.gov/what_we_do/FinancingHealthyFoodOptionsResourceBank.asp



The screenshot shows a web browser window with the address bar displaying www.cdfifund.gov/what_we_do/FinancingHealthyFoodOptionsResourceBank.asp. The page features a blue sidebar with navigation links: WHO WE ARE, WHAT WE DO, IMPACT WE MAKE, NEWS & EVENTS, and HOW TO APPLY. The main content area has a yellow header with the text "COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND" and "UNITED STATES DEPARTMENT OF THE TREASURY". Below this is a section titled "Financing Healthy Food Options Resource Bank" with three sub-sections: I. Training Curriculum, II. Training Webinars, and III. Additional Resources. Each sub-section contains a list of links to various resources. A fourth sub-section, IV. Food Desert Mapping Tools, is also present. A blue banner at the bottom of the page reads "The CDFI Fund Has Moved".

CDFI Fund - U.S. Treasury - x

www.cdfifund.gov/what_we_do/FinancingHealthyFoodOptionsResourceBank.asp

- WHO WE ARE
- WHAT WE DO
- IMPACT WE MAKE
- NEWS & EVENTS
- HOW TO APPLY

COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND

UNITED STATES DEPARTMENT OF THE TREASURY

Financing Healthy Food Options Resource Bank

I. Training Curriculum

- [Food Systems Overview](#)
- [Healthy Food Retail Financing](#)
- [Financial Services for Mid-Tier Food Chain Enterprises](#)
- [NMTC & Urban Supermarkets](#)
- [Understanding the Grocery Industry](#)
- [Underwriting Supermarkets & Grocery Stores](#)
- [Mid-Tier Food Chain Enterprises Overview & Underwriting](#)
- [Capitalizing Healthy Food Retail Initiatives](#)
- [Identifying Optimal Areas for Supermarket Development](#)
- [Understanding the Food Production Sector](#)
- [Credit Skills for Lending to the Food Production Sector](#)

II. Training Webinars

III. Additional Resources

- Searching for Markets: The Geography of Inequitable Access to Healthy and Affordable Food
 - [Executive Summary](#)
 - [Full Report](#)
- [Financial Resources Catalogue](#)

IV. Food Desert Mapping Tools

- [USDA Food Desert Locator](#)
- [PolicyMap](#)

The CDFI Fund Has Moved



Financing Healthy Food Options Webinar Archive

http://www.cdfifund.gov/what_we_do/FHFOResourceBankWebinars.asp



The screenshot shows a web browser window with the address bar displaying www.cdfifund.gov/what_we_do/FHFOResourceBankWebinars.asp. The page header includes the CDFI Fund logo and navigation links: WHO WE ARE, WHAT WE DO, IMPACT WE MAKE, NEWS & EVENTS, and HOW TO APPLY. The main content area is titled "COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND" and "UNITED STATES DEPARTMENT OF THE TREASURY". Below this, the section "Financing Healthy Food Options Resource Bank: Webinars" is highlighted. A note states: "Relevant Training Curriculum chapters can be found on the Resource Bank's [main page](#)." The page lists four numbered sections of webinars, each with a list of links to webinar presenter biographies, accompanying presentations, and other resources.

COMMUNITY DEVELOPMENT FINANCIAL INSTITUTIONS FUND
UNITED STATES DEPARTMENT OF THE TREASURY

Financing Healthy Food Options Resource Bank: Webinars

Relevant Training Curriculum chapters can be found on the Resource Bank's [main page](#).

1. PolicyMap and Using Limited Supermarket Analysis in Your Target Market

- [Webinar 1 Presenter Biography](#)
- [Webinar 1 Accompanying Presentation](#)

2. Healthy Food Options Program Design and Social Impact Measurement

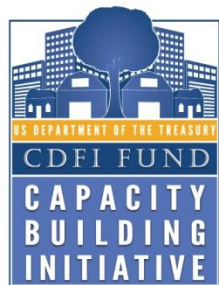
- [Webinar 2 Presenters Biographies](#)
- [Webinar 2 Accompanying Presentation](#)
- [Sample Retail Loan Pre-Application Design](#)
- [Sample Retail Loan Application Design](#)
- [Sample Retail Loan Template for Data Collection \(.xls\)](#)
- [The Grocery Gap: Who Has Access to Healthy Food and Why it Matters](#) (Food Trust and PolicyLink)

3. Green for Greens

- [Webinar 3 Presenters Biographies](#)
- [Webinar 3 Accompanying Presentation](#)
- [Green for Greens: Finding Public Financing for Healthy Food Retail](#) (Public Health Law & Policy)
- [Getting to Grocery: A Toolkit for Attracting Food Retail to Underserved Neighborhoods](#) (Public Health Law & Policy)

4. New American Foodshed

- [Webinar 4 Presenters Biographies](#)
- [Webinar 4 Accompanying Presentation](#)
- [Field Guide to the New American Foodshed](#)
 - [Field Guide: One Page Planning](#)
- [National Good Food Network](#)
- [Farm Credit Council](#)



Upcoming TA Webinars

Developing Loan Policies and Procedures for Healthy Food Financing

•Wednesday, August 15, 2pm EDT

Underwriting Supermarkets: A Deeper Look at the Details of Financing Grocers

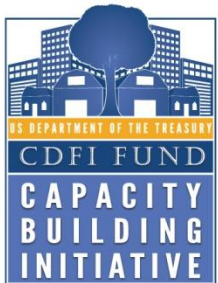
•Wednesday, August 22, 2pm EDT

More to come in September, including:

- Rural Grocery Stores
- Healthy Corner Stores
- Loan Application Review for Food Producers
- And much more!

STAY TUNED!

Visit www.opportunityfinance.net/FHFOwebinars/ to register for one or all of the TA webinars



Contact Information

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Strategic Consulting

Opportunity Finance Network

pporter@opportunityfinance.net

215.320.4303



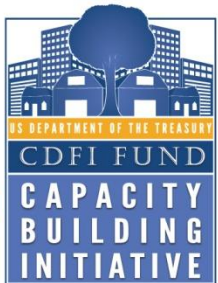
Christy Bare

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